UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/584,013	VAN DER SANDEN ET AL.
	Examiner	Art Unit	
	CHARLES E. ANYA	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3/ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2011*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-106,108-130,132-138 and 140-146* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-21,23-45,49-94,98-104,108-116,120-127,132-138 and 140-146* is/are rejected.

7)☒ Claim(s) *,18, 22, 46-48, 95-97, 105, 106, 117-119, 128-130* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-146 are pending in this application.

Claim Objections

2.   Claims 11, 25, 52-54, 58, 68, 101-103, 138 and 138 are objected to because of the following informalities:

It is not clear whether Applicant is claiming protection under 112 6th. in claim 58 because Applicant deleted terms "means for" but left out the term "determining means for".

Claim 138 seems to include typographical error. Specifically, "means comparing" is missing the term "for".

Abbreviations are used in claims 11, 25, 52-54, 68,101-103 and 134, however the full meaning of the abbreviated words are not included in the claims.

For instance, the abbreviations (HTTP, HTML) are used through out claims 11, 25, 52-54, 68,101-103 and 134 without description of the full meaning of these abbreviations. Abbreviations are allowed in claims, however it advisable to spell out the first occurrence of the abbreviation.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

3.   **Claim 144 is directed to non-statutory subject matter.**

Claim 144 is directed to a "computer programmable medium". The "computer programmable medium" as disclosed in the specification (page 3 paragraph 0024 includes a "carrier medium". As known is the art "carrier medium" is not limited to statutory embodiment because it includes the likes of carrier wave, propagation medium etc.

Appropriate corrected is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 1, 2, 5, 6, 10-13, 26, 27, 58, 59, 62, 63, 67-70 83, 84, 108, 141, 142, 144**

and 145 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No.

7,130,877 B2 issued to McNeely et al.

5.   As to claim 1, McNeely teaches a method of directing messages within a

computer system, the method comprising:

Directing a message to a predetermined set of services ("…request object…"

Col. 3 Ln. 28 – 63, URL Request 102/Request 106 Col. 5 Ln. 58 – 67, Col. 6 Ln. 34 –

58, Col. 8 Ln. 40 – 67);

each service executing a command specified by the message ("…switching

component is operable to examine at least one of the request object…in determining at

least one of the plurality of request processing modules to which to forward the

request…" Col. 3 Ln. 28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, "…The

processing of he corresponding URL request 102…" Col. 9 Ln. 29 – 32, Col. 12 Ln. 25 –

29);

wherein the message comprises details of the predetermined set of services

("…Information held in the request message received is encapsulated in the request

object. Upon examination of at least one of the objects, a determination is made as to

which one of a plurality of request processing modules…" Col. 3 Ln. 51 – 56,

"…dependent on information contained at least in the request object 106…" Col. 5 Ln.

58 – 67); and

each service in the predetermined set of services using said details to determine

whether the message should be sent to another service; and

if it is determined that the message should be sent to another service, each

service in the predetermined set of services transmitting the message to an appropriate

service ("...At least one switching component is operable to examine at least one of the

request object...in determining at least one of the plurality of request processing

modules to which to forward the request..." Col. 3 Ln. 32 – 56, "...the request 106

directed to the servlet 222..." Col. 6 Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 – 28,

figures 6/7 Col. 7 Ln. 50 – 57, "...said at least one switching module being operable to

examine at least one of the request object...to determine a second request processing

module of the plurality of request processing modules to which to forward the request..."

Col. 12 Ln. 30 – 39).

6.   As to claim 2, McNeely teaches a method according to claim 1, wherein the

message comprises a list of pairs, a first element of each pair representing a service in

the predetermined set of services, and a second element of each pair representing a

command to be executed by that service ("...request object..." Col. 3 Ln. 28 – 63, URL

Request 102/Request 106 Col. 5 Ln. 58 – 67, Col. 6 Ln. 34 – 58, Col. 8 Ln. 40 – 67).

7.   As to claim 5, McNeely teaches a method according to claim 1, wherein each

service is implemented as a service object which is instance of a respective service

class defined in an object oriented programming language ("...plurality of request

processing modules..." Col. 3 Ln. 28 – 63, Servlet Pipeline Flows 120, Servlet Pipeline

320-A-H: NOTE: servlet is a Java class (from which an object is instantiated) that

receives a request and generates a response based on that request).

8.   As to claim 6, McNeely teaches a method according to claim 5, wherein each

service class has an associated service handler class which specifies a method

configured to execute a command directed to an instance of the respective service

class ("...plurality of request processing modules..." Col. 3 Ln. 28 – 63, Servlet Pipeline

Flows 120, Servlet Pipeline 320-A-H: NOTE: servlet is a Java class (from which an

object is instantiated) that receives a request and generates a response based on that

request).

9.   As to claim 10, McNeely teaches a method according to claim 1, wherein the

message is generated by a composite user interface ("...web browser client

application..." Col. 1 Ln. 11 – 25).

10.   As to claim 11, McNeely teaches a method according to claim 10, wherein the

message is generated by a HTTP request ("...(HTTP) requests..." Col. 11 Ln. 60 – 64)

11.   As to claim 12, McNeely teaches a method according to claim 1, wherein the

message is directed to a service which generates at least one further message, said

further message comprising details of a further set of services to which the further

message is to be directed ("...switching component is operable to examine at least one

of the request object...in determining at least one of the plurality of request processing

modules to which to forward the request..." Col. 3 Ln. 28 – 63, Request Switch 280 Col.

5 Ln. 58 – 67, Servlet 590 Col. 7 Ln. 34 – 40).

12.   As to claim 13, McNeely teaches a method according to claim 12, wherein each

service in the further set of services uses said details of the further set of services to

determine whether the further message should be sent to another service, and if it is

determined that the message should be sent to another service transmits the message

to an appropriate service ("...Unidirectional processing of URL requests...makes use of

coded knowledge of the servlet 222..." Col. 6 Ln. 34 – 48).

13.   As to claim 26, McNeely teaches a method according to claim 1, wherein said

messages are to be directed from a composite user interface to at least one source

application services ("...request object..." Col. 3 Ln. 28 – 63, URL Request 102/Request

106 Col. 5 Ln. 58 – 67, Col. 6 Ln. 34 – 58, Col. 8 Ln. 40 – 67).

14.   As to claim 27, McNeely teaches a method according to claim 26, wherein said at

least one source application is a single source application (Application Server 500 Col.

7 Ln. 34 – 40).

15.   As to claim 58, McNeely teaches a system for directing messages within a

computer system, wherein:

the system comprises a plurality of services ("…plurality of request processing

modules…" Col. 3 Ln. 28 – 63);

a message is to be directed to a predetermined set of services ("…request

object…" Col. 3 Ln. 28 – 63, URL Request 102/Request 106 Col. 5 Ln. 58 – 67, Col. 6

Ln. 34 – 58, Col. 8 Ln. 40 – 67); and

the message comprises details of the predetermined set of services

("…Information held in the request message received is encapsulated in the request

object. Upon examination of at least one of the objects, a determination is made as to

which one of a plurality of request processing modules…" Col. 3 Ln. 51 – 56,

"…dependent on information contained at least in the request object 106…" Col. 5 Ln.

58 – 67);

each service in the predetermined set of service comprising:

for executing a command specified by the message ("…switching component is

operable to examine at least one of the request object…in determining at least one of

the plurality of request processing modules to which to forward the request…" Col. 3 Ln.

28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, "…The processing of he corresponding

URL request 102…" Col. 9 Ln. 29 – 32, Col. 12 Ln. 25 – 29);

determining means for using said details to determine whether the message

should be sent to another service ("…switching component…" Col. 3 Ln. 28 – 63,

"…The servlets in each of the servlet pipeline flows 120 are chosen to include only

servlets relevant to particular URL requests 102 processed while excluding servlets

irrelevant to those URL requests 102…" Col. 6 Ln. 6 – 10); and

for transmitting the message to an appropriate service if it is determined that the

message should be sent to another service ("…forward the request…" Col. 3 Ln. 32 –

55, "…the request 106 directed to the servlet 222…" Col. 6 Ln. 12 – 15, Request Switch

380 Col. 7 Ln. 26 – 28).

16.   As to claims 59, 62, 63, 67-70 83 and 84, see the rejection of claims 2, 5, 6, 10-

13, 26 and 27 respectively.

17.   As to claim 141, McNeely teaches a method of processing messages within a

computer system, comprising:

receiving a message comprising details of a predetermined set of processing

modules, and a command ("…request object…" Col. 3 Ln. 28 – 63, URL Request

102/Request 106 Col. 5 Ln. 58 – 67, Col. 6 Ln. 34 – 58, Col. 8 Ln. 40 – 67);

executing said command ("…switching component is operable to examine at

least one of the request object…in determining at least one of the plurality of request

processing modules to which to forward the request…" Col. 3 Ln. 28 – 63, Request

Switch 280 Col. 5 Ln. 58 – 67, "…The processing of he corresponding URL request

102…" Col. 9 Ln. 29 – 32, Col. 12 Ln. 25 – 29) and

transmitting the message to a processing module in said predetermined set of

processing modules ("…forward the request…" Col. 3 Ln. 32 – 55, "…the request 106

directed to the servlet 222..." Col. 6 Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 –

28).

18.   As to claim 142, McNeely teaches a method of directing messages between a

composite user interface and at least one source application, comprising:

        receiving a message generated by said composite user interface ("...URL

requests issued by the web browser client application..." Col. 1 Ln. 11 – 25, URL

Request 102/Request 106 Col. 1 Ln. 54 – 67, "....request object..." Col. 3 Ln. 28 – 63,

Col. 5 Ln. 58 – 67, Col. 6 Ln.1 – 59);

        carrying out processing specified by said message ("...switching component is

operable to examine at least one of the request object...in determining at least one of

the plurality of request processing modules to which to forward the request..." Col. 3 Ln.

28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, "...The processing of he corresponding

URL request 102..." Col. 9 Ln. 29 – 32, Col. 12 Ln. 25 – 29);

        generating at least one further message to be directed to the at least one source

application, said at least one further message comprising details of a set of processing

modules to which the further message is to be directed ("...switching component is

operable to examine at least one of the request object...in determining at least one of

the plurality of request processing modules to which to forward the request..." Col. 3 Ln.

28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, Col. 12 Ln. 25 – 29); and

        directing said at least one further message to a processing module in said set of

processing modules ("...forward the request..." Col. 3 Ln. 32 – 55, "...the request 106

directed to the servlet 222…" Col. 6 Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 –

28).

19.   As to claim 144, McNeely teaches a computer programmable medium having

code stored therein and executable by a processor for processing a message

comprising details of a set of processing modules to which the message is to be

directed, and at least one command, the code comprising:

    a code module adapted to receive the message ("…request object…" Col. 3 Ln.

28 – 63, URL Request 102/Request 106 Col. 5 Ln. 58 – 67, Col. 6 Ln. 34 – 58, Col. 8

Ln. 40 – 67);

    a code module adapted to execute said at least one command ("…forward the

request…" Col. 3 Ln. 32 – 55, "…the request 106 directed to the servlet 222…" Col. 6

Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 – 28);

    a code module adapted to determine a processing module within said set

processing modules to which the message should be transmitted ("…switching

component is operable to examine at least one of the request object…in determining at

least one of the plurality of request processing modules to which to forward the

request…" Col. 3 Ln. 28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, Col. 12 Ln. 25 –

29); and

    a code module adapted to transmit said message to said determined processing

module ("…forward the request…" Col. 3 Ln. 32 – 55, "…the request 106 directed to the

servlet 222…" Col. 6 Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 – 28).

20.   As claim 145, McNeely teaches a method of directing messages between a

composite user interface and at least one source application, comprising:

receiving a message generated by said composite user interface ("…URL

requests issued by the web browser client application…" Col. 1 Ln. 11 – 25, URL

Request 102/Request 106 Col. 1 Ln. 54 – 67, "….request object…" Col. 3 Ln. 28 – 63,

Col. 5 Ln. 58 – 67, Col. 6 Ln.1 – 59), said message comprising a predetermined set of

processing modules to which the message should be directed ("…Information held in

the request message received is encapsulated in the request object. Upon examination

of at least one of the objects, a determination is made as to which one of a plurality of

request processing modules…" Col. 3 Ln. 51 – 56, "…dependent on information

contained at least in the request object 106…" Col. 5 Ln. 58 – 67);

carrying out processing specified by said message ("…switching component is

operable to examine at least one of the request object…in determining at least one of

the plurality of request processing modules to which to forward the request…" Col. 3 Ln.

28 – 63, Request Switch 280 Col. 5 Ln. 58 – 67, "…The processing of he corresponding

URL request 102…" Col. 9 Ln. 29 – 32, Col. 12 Ln. 25 – 29); and

directing said message to a processing module in said set of processing modules

("…forward the request…" Col. 3 Ln. 32 – 55, "…the request 106 directed to the servlet

222…" Col. 6 Ln. 12 – 15, Request Switch 380 Col. 7 Ln. 26 – 28).

21.   As to claims 107 and 108, see the rejection of claim 1 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

22.   **Claims 3, 4, 8, 60, 61 and 65 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in view of

U.S. Pat. No. 6,643,708 B1 issued to Francis et al.

23.   As to claim 3, McNeely teaches a method according to claim 1, however it is

silent with reference to a plurality of services in the predetermined set of services

operate within a single operating system process.

Francis teaches a plurality of services in the predetermined set of services

operate within a single operating system process ("...servlets within a single host

computer..." Col. 3 Ln. 43 – 44, "...servlets run inside a JVM within a host computer

Col. 5 Ln. 64 – 66, figure 3 (Servlet 44/Remote Servlet 48)).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Francis

because the teaching of Francis would improve the system of McNeely by providing a technique for servicing requests in a relative short period of time.

24.   As to claim 4, McNeely teaches a method according to claim 1, however it is silent with reference to services in the predetermined set of services operating within a plurality of operating system processes.

Francis teaches services in the predetermined set of services operating within a plurality of operating system processes ("…implement servlet chaining across network…" Col. 6 Ln. 21 – 24, "…two servlets, each residing within different host computers…" Col. 7 Ln. 29 – 35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Francis because the teaching of Francis would improve the system of McNeely by distributing services across multiple computers so as to minimize resource requirements on a part computer.

25.   As to claim 8, McNeely teaches a method according to claim 1, however it is silent with reference to an attempt is made to locate the appropriate service within the current operating system process.

Francis teaches an attempt is made to locate the appropriate service within the current operating system process ("….identification of a host computer within which the servlet resides…" Col. 6 Ln. 21 – 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Francis because the teaching of Francis would improve the system of McNeely by providing a technique for servicing requests in a relative short period of time.

26.   As to claim 60, 61 and 65, see the rejection of claims 3, 4 and 8 respectively.

27.   Claims 7 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in view of U.S. Pub. No. 2004/0193635 A1 to Hsu et al.

28.   As to claim 7, McNeely teaches a method according to claim 6, however it is silent with reference to each service object referencing a plurality of service handler objects which are instances of the respective service handler class.

Hsu teaches each service object referencing a plurality of service handler objects which are instances of the respective service handler class (Web Service Handler 1056 page 8 paragraph 0095, "Web Service objects..." page 8 paragraphs 0097/0098).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Hsu because the teaching of Hsu would improve the system of McNeely by providing a technique for allowing users to process SOAP message header traffic for the remote call to the Web service.

29.   As to claim 64, see the rejection of claim 7 above.

30.   Claims 9 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in view of U.S. Pat. No.

6,643,708 B1 issued to Francis et al. as applied to claims 8 and 65 above, and

further in view of U.S. Pat. No. 7,231,596 B2 issued to Koren.

31.   As to claim 9, McNeely as modified by Francis teaches a method according to

claim 8, however it is silent with reference to if the attempt is unsuccessful, the message

is transmitted to a messaging service within the current operating system process which

is responsible for inter-process communication, and the messaging service transmits

the message to a different operating system process.

        Koren teaches if the attempt is unsuccessful, the message is transmitted to a

messaging service within the current operating system process which is responsible for

inter-process communication, and the messaging service transmits the message to a

different operating system process ("…failover button…" Col. 3 Ln. 21 – 30, Col. 28 Ln.

19 – 67).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely and Francis with the teaching of

Koren because the teaching of Koren would improve the system of McNeely and

Francis by providing the capability to switch over automatically to a redundant or

standby computer server, system or network, upon the failure or abnormal termination

of the previously active application.

32.   As to claim 66, see the rejection of claim 9 above.

33.   Claims 14-25 and 71-82 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in view of

U.S. Pat. No. 7,046,261 B2 issued to Popp et al.

34.   As to claim 14, McNeely teaches a method according to claim 12, however it is

silent with reference to the at least one further message produces a request which is

transmitted to at least one source application.

        Popp teaches at least one further message produces a request which is

transmitted to at least one source application ("...application 214 send a message to the

root object 218...Root object 218 sends a message to its children..." Col. 12 Ln. 32 –

51).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

35.   As to claim 15, McNeely teaches a method according to claim 14, however it is

silent with reference to the further message is directed to a service which produces the

request in a form determined by predefined configuration data.

Popp teaches the further message is directed to a service which produces the

request in a form determined by predefined configuration data ("...object class library..."

Col. 11 Ln. 20 – 55, "...hierarchical structure of the HTML elements..." Col. 12 Ln. 32 -

51).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

36.   As to claim 16, Popp teaches data from the source application is used to create a

response message in response to said request (Step 560 Col. 31 Ln. 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

37.   As to claim 17, Popp teaches said response message comprises details of a set of response services to which the response message is to be directed (Step 560 Col. 31 Ln. 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Popp because the teaching of Popp would improve the system of McNeely by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

38.   As to claim 19, Popp teaches the set of response services is the set of further services (Step 560 Col. 31 Ln. 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Popp because the teaching of Popp would improve the system of McNeely by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

39.   As to claim 20, Popp teaches a service in the set of response services receives a plurality of response messages and combines said plurality of response messages to create a further response message (Step 560 Col. 31 Ln. 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

40.   As to claim 21, Popp teaches said further response message comprises details

of a set of further response services to which the further response message is to be

directed (Step 560 Col. 31 Ln. 1 – 5).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

41.   As to claims 23, see the rejection of claim 19 above.

42.   As to claim 24, Popp teaches the further response message is transmitted to the

composite user interface (Step 560 Col. 31 Ln. 1 – 5).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

43.   As to claim 25, Popp teaches the further response message is transmitted to the

composite user interface using the HTTP protocol ("...HTTP response..." Col. 26 Ln. 18

– 29).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Popp

because the teaching of Popp would improve the system of McNeely by providing a way

to compartmentalize and reuse code by creating collections of attributes and behaviors

called objects which can be based on previously created objects.

44.   As to claims 71-82, see the rejection of claims 14-25 respectively.

45.   Claims 28, 29, 32-38, 85-93 and 98-104 are rejected under 35 U.S.C. 103(a)

as being unpatentable over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in

view of U.S. Pat. No. 6,112,242 issued to Jois et al.

46.   As to claim 28, McNeely teaches a method according to claim 1, wherein:

the message is directed between a composite user interface and at least one

source application ("...URL requests issued by the web browser client application..."

Col. 1 Ln. 11 – 25, URL Request 102/Request 106 Col. 1 Ln. 54 – 67, "....request

object..." Col. 3 Ln. 28 – 63, Col. 5 Ln. 58 – 67, Col. 6 Ln.1 – 59).

McNeely is silent with reference to the message is received by an aggregation service which generates at least one further message which produces a request to the at least one source application;

the aggregation service receives a plurality of response messages containing data generated by the at least one source application; and

the aggregation service uses said plurality of response messages to generate a further response message which is transmitted to the composite user interface.

Jois teaches the message is received by an aggregation service which generates at least one further message which produces a request to the at least one source application ("...composite Web page generator 240...invoked by an appropriate URL, it is loaded..." Col. 5 Ln. 35 – 41, Steps 600-624 Col. 6 Ln. 35 – 60);

the aggregation service receives a plurality of response messages containing data generated by the at least one source application (Steps 630-670 Col. 6 Ln. 60 – 67, Col. 7 Ln. 1 – 30); and

the aggregation service uses said plurality of response messages to generate a further response message which is transmitted to the composite user interface (Steps 630-680 Col. 6 Ln. 60 – 67, Col. 7 Ln. 1 – 34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Jois because the teaching of Jois would improve the system of McNeely by allowing a user to send input in one component and interactively view a response from the server in another component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

47.	As to claim 29, Jois teaches each further message comprises details of a further

set of services to which the further message is to be directed, and each service uses

said details of said further set of services to determine whether the further message

should be sent to another service, and if it is determined that the message should be

sent to another service transmits the message to an appropriate service (Steps 640-660

Col. 6 Ln. 63 – 67, Col. 7 Ln. 1 – 29).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

48.	As to claim 32, Jois teaches said data contained in the plurality of response

messages contains user interface elements (Steps 640-660 Col. 6 Ln. 63 – 67, Col. 7

Ln. 1 – 29).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

49.   As to claim 33, McNeely teaches a method according to claim 32, however it is

silent with reference to said aggregation service combines said user interface elements

to generate said composite user interface in accordance with predefined configuration

data.

     Jois teaches said aggregation service combines said user interface elements to

generate said composite user interface in accordance with predefined configuration

data (Steps 600-680 Col. 6 Ln. 35 – 67, Col. 7 Ln. 1 – 34).

     It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

50.   As to claim 34, McNeely teaches a method according to claim 33, however it is

silent with reference to said aggregation service generates additional user interface

elements which are combined with said user interface elements to generate said

composite user interface.

     Jois teaches said aggregation service generates additional user interface

elements which are combined with said user interface elements to generate said

composite user interface (Steps 600-680 Col. 6 Ln. 35 – 67, Col. 7 Ln. 1 – 34).

     It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

51.   As to claim 35, McNeely teaches a method according to claim 33, however it is

silent with reference to said configuration data is arranged in a hierarchical data

structure.

        Jois teaches said configuration data is arranged in a hierarchical data structure

(Storage 210 Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13,

"…subtemplate…" Col. 7 Ln. 6 - 18).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

52.   As to claim 36, McNeely teaches a method according to claim 35, however it is

silent with reference to a first entity within the hierarchical data structure represents the

composite user interface, and child entities of said first entity represent the plurality of

user interface elements for inclusion in the composite interface.

        Jois teaches a first entity within the hierarchical data structure represents the

composite user interface, and child entities of said first entity represent the plurality of

user interface elements for inclusion in the composite interface (Storage 210 Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13, "...subtemplate..." Col. 7 Ln. 6 - 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Jois because the teaching of Jois would improve the system of McNeely by allowing a user to send input in one component and interactively view a response from the server in another component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

53.   As to claim 37, McNeely teaches a method according to claim 36, however it is silent with reference to creating a run-time data structure having a structure corresponding to that of said hierarchical data structure.

Jois teaches creating a run-time data structure having a structure corresponding to that of said hierarchical data structure (Storage 210 Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13, "...subtemplate..." Col. 7 Ln. 6 - 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Jois because the teaching of Jois would improve the system of McNeely by allowing a user to send input in one component and interactively view a response from the server in another component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

54.   As to claim 38, McNeely teaches a method according to claim 37, however it is silent with reference to at least some entities of said run-time data structure contain state information.

Jois teaches at least some entities of said run-time data structure contain state information (Storage 210 Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13, "…subtemplate…" Col. 7 Ln. 6 - 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Jois because the teaching of Jois would improve the system of McNeely by allowing a user to send input in one component and interactively view a response from the server in another component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

55.   As to claim 85, see the rejection of claims 28 and 58 above.

56.   As to claims 86-93, see the rejection of claims 29-36 respectively.

57.   **Claims 39-45, 49-55, 94 and 98-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,130,877 B2 issued to McNeely et al. in view of U.S. Pat. No. 6,112,242 issued to Jois et al. as applied to claims 38 and 58 above, and further in view of U.S. Pat. No. 7,046,261 B2 issued to Popp et al.**

58.   As to claim 39, McNeely as modified by Jois teaches a method according to

claim 38, however it is silent with reference to creating an object data structure

comprising a plurality of objects, the object data structure having a structure

substantially corresponding to at least part of said hierarchical data structure, and each

object representing a received user interface element.

        Popp teaches creating an object data structure comprising a plurality of objects,

the object data structure having a structure substantially corresponding to at least part

of said hierarchical data structure, and each object representing a received user

interface element ("…application 214 send a message to the root object 218…Root

object 218 sends a message to its children…" Col. 12 Ln. 32 – 51).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely and Jois with the teaching of

Popp because the teaching of Popp would improve the system of McNeely and Jois by

providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

59.   As to claim 40, McNeely as modified by Jois teaches method according to claim

39, however it is silent with reference to receiving a user request at a first entity within

said run-time data structure corresponding to said first entity within the hierarchical data

structure.

Popp teaches receiving a user request at a first entity within said run-time data structure corresponding to said first entity within the hierarchical data structure ("...application 214 send a message to the root object 218...Root object 218 sends a message to its children..." Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely and Jois with the teaching of Popp because the teaching of Popp would improve the system of McNeely and Jois by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

60.   As to claim 41, McNeely as modified by Jois teaches a method according to claim 40, however it is silent with reference to said user request comprises at least one parameter, and said at least one parameter is stored at said first entity.

Popp teaches said user request comprises at least one parameter, and said at least one parameter is stored at said first entity ("...application 214 send a message to the root object 218...Root object 218 sends a message to its children..." Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely and Jois with the teaching of Popp because the teaching of Popp would improve the system of McNeely and Jois by providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

61.   As to claim 42, McNeely as modified by Jois teaches a method according to

claim 40, however it is silent with reference to traversing said run-time data structure to

execute at least one action associated with a child entity of said first entity within said

run-time data structure.

Popp teaches traversing said run-time data structure to execute at least one

action associated with a child entity of said first entity within said run-time data structure

("…application 214 send a message to the root object 218…Root object 218 sends a

message to its children…" Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely and Jois with the teaching of

Popp because the teaching of Popp would improve the system of McNeely and Jois by

providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

62.   As to claim 43, McNeely as modified by Jois teaches a method according to

claim 41, however it is silent with reference to said at least one action comprises

generating a request for a user interface element represented by said child entity.

Popp teaches said at least one action comprises generating a request for a user interface element represented by said child entity ("...application 214 send a message to the root object 218...Root object 218 sends a message to its children..." Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely and Jois with the teaching of Popp because the teaching of Popp would improve the system of McNeely and Jois by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

63.   As to claim 44, Jois teaches said request comprises state information from at least one entity within said run-time data structure (Storage 210 Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13, "...subtemplate..." Col. 7 Ln. 6 - 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of McNeely with the teaching of Jois because the teaching of Jois would improve the system of McNeely by allowing a user to send input in one component and interactively view a response from the server in another component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

64.   As to claim 45, Jois teaches each child entity has an associated parameter

indicating whether the respective source user interface element is mandatory

("...master template..." Col. 5 Ln. 42 – 59).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

65.   As to claim 49, Jois teaches transformation service receives data from the at

least one source application and transforms said into an internal format, said

transformed data being contained in said plurality of response messages ("...Each

subprogram typically generates an output that is written to the master template in HTML

format to form the Web page..." Col. 7 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

66.   As to claim 50, Jois teaches the transformation service applies regular

expressions to transform data ("...Each subprogram typically generates an output that is

written to the master template in HTML format to form the Web page..." Col. 7 Ln. 1 –

18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

67.   As to claim 51, Jois teaches a method according to claim 49, wherein the

transformation service applies transformations defined within a class defined in an

object oriented programming language to transform data ("...Each subprogram typically

generates an output that is written to the master template in HTML format to form the

Web page..." Col. 7 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

68.   As to claim 52, Jois teaches the data received from the at least one

source application is a HTML page ("...Each subprogram typically generates an output

that is written to the master template in HTML format to form the Web page..." Col. 7

Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

69.   As to claim 53, Jois teaches a method according to claim 52, wherein the

transformation service is reconfigured to recognize a plurality of HTML pages, and is

configured to extract predetermined user interface elements from recognized HTML

pages ("...Each subprogram typically generates an output that is written to the master

template in HTML format to form the Web page..." Col. 7 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

70.   As to claim 54, Jois teaches the transformation service processes

HTML pages to amend references to other HTML pages in accordance with predefined

configuration data ("...Each subprogram typically generates an output that is written to

the master template in HTML format to form the Web page..." Col. 7 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

71.   As to claim 55, Jois teaches the transformation service transforms

data using configuration data contained in a hierarchical data structure, said hierarchical

data structure containing an entity for each source application ("...Each subprogram

typically generates an output that is written to the master template in HTML format to

form the Web page..." Col. 7 Ln. 1 – 18).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of McNeely with the teaching of Jois because

the teaching of Jois would improve the system of McNeely by allowing a user to send

input in one component and interactively view a response from the server in another

component of the composite Web page (Jois Col. 2 Ln. 45 – 49).

72.   As to claim 94, see the rejection of claim 45 above.

73.   As to claims 98-104, see the rejection of claims 49-55 respectively.

74.   Claims 109, 120 and 132 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Pub. No. 2004/0205554 A1 to Goswami et al. in view of U.S.

Pat. No. 7,389,471 B2 issued to Croney et al.

75.   As to claim 109, Goswami teaches a method for generating a composite user

interface for presentation to a user, the method comprising:

generating requests for a plurality data items for inclusion in the interface

("...accept information query from a customer..." page 2 paragraph 0026, "...information

requested..." page 3 paragraph 0030, "....HTTP requests..." page 4 paragraph 0055),

transmitting each request to one of a plurality of source applications ("...multiple

sources..." page 2 paragraph 0026, "...multiple applications..." page 4 paragraph 0055,

"...multiple sources..." page 7 (claims 1 and 2)); and

combining data items received in response to at least one of said requests to

generate the user interface ("...aggregated into a composite web document..." page 3

paragraph 00030, Web Page 40 page 3 paragraph 0044, "...assembling an aggregate

document..." page 4 paragraph 0055).

Goswami is silent with reference to wherein at least some of the predetermined

plurality of data items are mandatory, and at least some of the predetermined plurality of

data items are optional, and the composite user interface is generated when all

mandatory data items have been received.

Croney teaches wherein at least some of the predetermined plurality of data items are mandatory ("...master page preferably specifies a common layout..." Col. 2 Ln. 3 – 35), and at least some of the predetermined plurality of data items are optional ("...one or more corresponding content endpoint pages..." Col. 2 Ln. 3 – 35), and the composite user interface is generated when all mandatory data items have been received ("...one or more master pages and one or more content endpoint pages that can be merged to form a resultant page..." Col. 2 Ln. 62 – 67, Col. 2 Ln. 1 – 35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Goswami with the teaching of Croney because the teaching of Croney would improve the system of Goswami by providing a technique for creating web pages that share common layout and functionality (Croney Col. 1 Ln. 58 – 61).

76.   As to claims 120 and 132, see the rejection of claim 109 above.

77.   Claims 110-116 and 121-127 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2004/0205554 A1 to Goswami et al. in view of U.S. Pat. No. 7,389,471 B2 issued to Croney et al. as applied to claim 109 above, and further in view of U.S. Pat. No. 7,046,261 B2 issued to Popp et al.

78.   As to claim 110, Goswami as modified by Croney teaches a method according to

claim 109, however it is silent with reference to generating said plurality of requests

from a single request.

Popp teaches generating said plurality of requests from a single request

("…application 214 send a message to the root object 218…Root object 218

sends a message to its children…" Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Goswami and Croney with the teaching of

Popp because the teaching of Popp would improve the system of Goswami and Croney

by providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

79.   As to claim 111, Goswami teaches a method according to claim 110, wherein

said single request is a HTTP request entered by a user using a web browser "….HTTP

requests…" page 4 paragraph 0055.

80.   As to claim 112, Goswami teaches a method according to claim 111, wherein

said single request is received by an aggregation service ("…application component…"

page 4 paragraph 0055).

Popp teaches the aggregation service generates the plurality of requests in

accordance with predetermined configuration data ("…application 214 send a message

to the root object 218…Root object 218 sends a message to its children…" Col. 12 Ln. 32 – 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Goswami and Croney with the teaching of Popp because the teaching of Popp would improve the system of Goswami and Croney by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

81.   As to claim 113, Goswami teaches a method according to claim 112, however it is silent with reference to said configuration data that is arranged within a hierarchical data structure.

Popp teaches said configuration data that is arranged within a hierarchical data structure ("…object class library…" Col. 11 Ln. 20 – 55, "…hierarchical structure of the HTML elements…" Col. 12 Ln. 32 - 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Goswami and Croney with the teaching of Popp because the teaching of Popp would improve the system of Goswami and Croney by providing a way to compartmentalize and reuse code by creating collections of attributes and behaviors called objects which can be based on previously created objects.

82.   As to claim 114, Goswami teaches a method according to claim 113, however it

is silent with reference to a first entity within the hierarchical data structure represents

the composite user interface, and child entities of said first entity represent the plurality

of data items for inclusion in the composite interface.

        Popp teaches a first entity within the hierarchical data structure represents the

composite user interface, and child entities of said first entity represent the plurality of

data items for inclusion in the composite interface ("…root object 218…its children,

objects 220A-220B…" Col. 12 Ln. 32 – 51).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Goswami and Croney with the teaching of

Popp because the teaching of Popp would improve the system of Goswami and Croney

by providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

83.   As to claim 115, Croney teaches a method according to claim 114, wherein each

child entity has an associated parameter indicating whether the respective data item is

mandatory ("…master page preferably specifies a common layout…" Col. 2 Ln. 3 – 35).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Goswami with the teaching of Croney

because the teaching of Croney would improve the system of Goswami by providing a

technique for creating web pages that share common layout and functionality (Croney

Col. 1 Ln. 58 – 61).

84.   As to claim 116, Goswami as modified by Croney teaches a method according to

claim 115, however it is silent with reference to the aggregation service: locates said

first entity in the hierarchical data structure; locates all child entities of said first entity;

generates a request for each data item represented by a child entity; and transmits each

request to a respective source application.

        Popp teaches the aggregation service: locates said first entity in the hierarchical

data structure; locates all child entities of said first entity; generates a request for each

data item represented by a child entity; and transmits each request to a respective

source application ("...application 214 send a message to the root object 218...Root

object 218 sends a message to its children..." Col. 12 Ln. 32 – 51).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Goswami and Croney with the teaching of

Popp because the teaching of Popp would improve the system of Goswami and Croney

by providing a way to compartmentalize and reuse code by creating collections of

attributes and behaviors called objects which can be based on previously created

objects.

85.   As to claims 121-127, see the rejection of claims 110-116 respectively.

86.   **Claims 133-138 and 140 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over U.S. Pat. No. 6,112,242 issued to Jois et al. in view of U.S. Pat.

No. 7,747,941 B2 issued to Campbell et al.

87.   As to claim 133, Jois teaches a method for generating a composite user interface

for presentation to a user, said composite user interface comprising a plurality of user

interface elements generated from source interface elements provided by at least one

source application, the method comprising:

generating a plurality of request messages ("...invoked by an appropriate URL..."

Col. 5 Ln. 35 – 41, Step 600 Col. 6 Ln. 35 – 59);

transmitting each request message to an appropriate source application (Step

620 Col. 6 Ln. 45 – 59);

receiving a plurality of source interface elements from the at least one source

application (Step 600 Col. 6 Ln. 35 – 59).

Jois is silent with reference to comparing each received source interface element

with a plurality of predefined source interface templates; and if said received source

interface element matches a predefined source interface template, extracting at least

one user interface.

Campbell teaches comparing each received source interface element with a

plurality of predefined source interface templates ("...selecting a template from a library

to templates according to the contents of said at least one document..." Col. 3 Ln. 24 –

60, Col. 4 Ln. 13 – 32, Col. 7 Ln. 9 – 37); and if said received source interface element

matches a predefined source interface template, extracting at least one user interface

element for inclusion in said composite user interface ("…generating at least one

webpage from the selected is performed by computer program code…" Col. 3 Ln. 24 –

60, Col. 4 Ln. 13 – 32, Col. 7 Ln. 9 – 37).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Jois with the teaching of Campbell because

the teaching of Campbell would improve the system of Jois by automatically generating

and maintaining web pages without significant user input (Campbell Col. 1 Ln. 6 – 9).

88.   As to claim 134, Jois teaches a method according to claim 133, wherein at least

one of said source interface elements is a HTML document ("…Each subprogram

typically generates an output that is written to the master template in HTML format to

form the Web page…" Col. 7 Ln. 1 – 18).

89.   As to claim 135, Jois teaches a method according to claim 133, further

comprising: creating an internal representation of each extracted user interface element;

forwarding said internal representations to an aggregation service; combining said

internal representations to create an internal representation of the composite user

interface ("…Each subprogram typically generates an output that is written to the master

template in HTML format to form the Web page…" Col. 7 Ln. 1 – 18).

90.   As to claim 136, Jois teaches a method according to claim 134, wherein said

combination is effected in accordance with predefined configuration data (Storage 210

Col. 4 Ln. 4 – 9, figures 4/5 Col. 5 Ln. 60 – 67, Col. 6 Ln. 1 – 13, "…subtemplate…" Col.

7 Ln. 6 - 18).

91.   As to claim 137, Jois teaches a method according to claim 135, further

comprising transforming said internal representation of the composite user interface into

an output format specified by predefined configuration data ("…Each subprogram

typically generates an output that is written to the master template in HTML format to

form the Web page…" Col. 7 Ln. 1 – 18).

92.   As to claims 138 and 140, see the rejection of claim 133 above.

93.   Claim 143 is rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Pub. No. 2004/0205554 A1 to Goswami et al. in view of U.S. Pat. No. 6,112,242

issued to Jois et al.

94.   As to claim 143, Goswami teaches a method comprising:

aggregating user interface data received from a plurality of source applications

("…tool for aggregating information from multiple systems so that the information may

be consolidating into a single document…" page 2 paragraph 0021, page 2 paragraph

0026, "…retrieving data from multiple applications and assembling an aggregate

document from the retrieved data..." page 4 paragraphs 0055-0057), wherein

aggregating the user interface data comprises:

       requesting a set of user interface elements ("...HTTP requests are sent to

web server 51 from a web browser..." page 4 paragraph 0055); and

       receiving a plurality of user interface elements ("...The information is

typically available from multiple sources, including third-party applications..."

page 2 paragraph 0026, "...an application component may contain instructions

for retrieving data from multiple applications and assembling an aggregate

document from the retrieved data..." page 4 paragraphs 0055-0057).

Goswami is silent with reference to aggregating received user interface elements

to form a composite user interface when a predetermined subset of said set of user

interface elements has been received.

Jois teaches aggregating received user interface elements to form a composite

user interface when a predetermined subset of said set of user interface elements has

been received ("...the mast template are number of specific program tags..." Col. 6 Ln.

14 – 67, Step 650-660).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Goswami with the teaching of Jois because

the teaching of Jois would improve the system of Goswami by providing a technique for

controlling the number information or elements inserted in a web page to be rendered.

95.   Claim 146 is rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Pat. No 7,046,261 B2 issued to Popp et al. in view of U.S. Pat. No. 7,130,877

B2 issued to McNeely et al.

96.   As to claim 146, Popp teaches a method for generating a composite user

interface for communication with a plurality of source applications, the method

comprising:

receiving a message generated by said composite user interface ("...client

request..." Col. 4 Ln. 5 – 11, "...client request can result in the invocation of application

214..." Col. 7 Ln. 18 – 28, "...a request..." Col. 25 Ln. 58 – 67, Col. 26 Ln. 60 – 67);

identifying from data within said message a first entity within a hierarchical data

structure ("...a request preferably includes the following information: **application**

name..." Col. 26 Ln. 60 – 67, "...At step 502, the request is received by the Web

Objects server. Using the information contained in the request, the Web Objects server

identifies the application that will process the request..." Col. 27 Ln. 45 – 54).

Popp is silent with reference to identifying at least one child entity of said first

entity within said hierarchical data structure; and carrying out processing specified by

data stored at each child entity, the processing comprising generating a further

message for transmission to at least one of said plurality of source applications.

McNeely teaches to identifying at least one child entity of said first entity within

said hierarchical data structure (Actions 288 Col. 5 Ln. 41 – 50); and carrying out

processing specified by data stored at each child entity, the processing comprising

generating a further message for transmission to at least one of said plurality of source

applications ("...Action 2288 include switching the processing of the URL request 102 to

a specified..." Col. 5 Ln. 41 – 51).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Popp with the teaching of McNeely

because the teaching of McNeely would improve the system of Popp by providing a

switching component for examining a request object to promptly determine at one of

plurality of modules for servicing a request (McNeely Col. 3 Ln. 36 – 39).

Allowable Subject Matter

Claims 18, 22, 46-48, 56, 57, 95-97, 105, 106, 117-119 and 128-130 are

objected to as being dependent upon a rejected base claim, but would be allowable if

rewritten in independent form including all of the limitations of the base claim and any

intervening claims (The allowance is subject to Applicant addressing the related issues

raised in this office action).

Response to Arguments

Applicant's arguments with respect to claims 131, 143 and 146 have been

considered but are moot in view of the new ground(s) of rejection.

As for Applicants arguments regarding claims 1, 109 and 120, there are not

persuasive.

Applicant argues in substance that (1) the McNeely prior art does not teach "if it is determined that the message should be sent to another service, each service in the predetermined set of services transmitting the message to an appropriate service" because the "request object" is distinct from the claimed request message and (2) the Croney prior art does not teach "wherein at least some of the predetermined plurality of data items are mandatory and at least some of the predetermined plurality of data items are optional".

The examiner respectfully traverses Applicants arguments:

As to point (1), as claimed the "messages" are data or information directed within a computer system. The McNeely prior art discloses the process of processing Universal Resource Locator (URL) requests for web content. Application software implement request switching components adapted to route the URL requests for web content to servlets which perform modularized functionality in servicing the URL requests. The combination of request switching components and servlets define a request processing network. Each URL request is optimally routed only to necessary servlets to service the request. The use of request switches simplifies the servlet triggering functionality in selecting servlets to service each URL request enabling specialized processing of URL requests (Abstract).

The claimed "messages" is functionally equivalent to the URL requests because directed within a computer system and to plural servlets.

As to point (2), the Croney prior art discloses a client system for requesting one of the web pages. A server system merges an appropriate master page and endpoint

page into a resulting page that can be rendered as the requested web page by the client

system. This enables web pages sharing common features to be created automatically,

in real-time, and transparently to the client system, and without having to redundantly

store duplicative content for each of the web pages at the server system. The master

page includes "common layout" and is necessary or compulsory for the rendering of

web pages while the endpoint pages includes "optional master page content" that are to

be inserted into the master page based on some requirements.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CHARLES E. ANYA whose telephone number is

(571)272-3757. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hyung Sough can be reached on 571-272-6799. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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/Charles E Anya/
Examiner, Art Unit 2194